DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-003290
Date Inspected: 10-Jul-2008

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 630
OSM Departure Time: 1530
Location: Shanghai, China

CWI Name:	Hu Wei Qing and Lvliqing			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: OBG and SAS Tower Fabrication

Summary of Items Observed:

On this date, Caltrans Office of Structural Material (OSM) Quality Assurance (QA) Inspector Joselito Lizardo was present as requested to perform observations on the fabrication of Orthotropic Box Girder (OBG) and SAS Tower at Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China.

The QA Inspector has randomly observed the following activities on sub-assembly Bays mentioned below;

Bay 7: OBG - Floor Beam Sub Assembly
The QA Inspector randomly observed ZPMC welder Liu Kai Ge ID Number 044830, utilizing the FCAW Process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H in the 3G (Horizontal Groove) Position with ZPMC WPS WPS-B-T-2233-Tc-U4-F, to weld fill pass on skewed connection plate (of 300mm x 300mm diagonal brace) to floor beam bottom flange Sub-Assembly SSD19-PP036-136/137. The QA Inspector randomly observed ZPMC QC Yang Ding monitoring weld parameters with the supervision of ZPMC CWI Hu Wei Qing.

QA Inspector J. Lizardo randomly observed ZPMC qualified welder Zhang Qing Quan ID #066418 groove welding fill pass on (flange to web plate) tee joint. Mr.Zhang was observed welding in the 2G (horizontal) position utilizing a flux corded arc welding (FCAW) process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic at floor beam FB029-001-148. QA inspector Lizardo observed the ZPMC QC CWI Inspector Hu Wei Qing verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). FCAW(2G) CJP welding on stiffener end(200mm long) to web plate of floor beam FB029-001-061 was also noted using the same wire electrode and WPS by ZPMC welder Hong Shuili

ID #044815.

SMAW tack welding/fit-up was noted on multiple stiffeners to web plate of floor beam FB027-001, FB040-001 and FB020-001 using 4.0mm diameter, THJ506Fe electrode. Minor fillet weld repair on flange to web plate (due to undersize) observed on floor beam FB011-001-004 using TL-508 electrode by ZPMC welder Hu Yacheng ID #049339.

This QA observed ZPMC/NDE Ma Jilong perform UT on skewed connection plate to bottom flange of floor beam sub-assembly weld joints SSD16-PP032-006 and SSD16A-PP032-131 and its continuity plate weld joints FB003-035-020 and 008.

Bay 8: Tower Diaphragm
This QA Inspector randomly observed two ZPMC welder Jiang Yong Sheng ID number 045240 and Chen Chao Nian ID #048688 utilizing the FCAW Process in the 3G (Vertical Groove) Position with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic with ZPMC WPS WPS-B-T-2233-B-U3-F, to weld fill pass on groove (bent heavy plate) splice butt joint on Tower Diaphragm Flange Sub-Assembly ESD1-SA226 weld joint 7A and NSD1-SA334 A/B-12A respectively. The QA Inspector randomly observed ZPMC CWI Lvliqing monitoring weld parameters. Tack welding(2F) of fillet weld connection between tower diaphragm plate to diaphragm flange ESD1-SA309-1 using THJ506Fe-1 by ZPMC welder Fan Dian Yi ID #051324 also continues this QA observed. Preheat and welding parameters being monitored by ZPMC CWI Lvliqing.

Heat straightening was observed on tower diaphragm flange SSD1-SA32 weld joints 4A/B, 8A/B, 9A/B, and 11A/B due to welding distortion. Natural gas was used with thermal heat input of less than 650 degree C and with the aid of 50-Ton hydraulic Ram following procedure HSR1(T)-2658.

The QA Inspector randomly observed ZPMC welder Xie Liang Fang ID Number 045247, utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-B-L2c-S-1, to weld the fill pass on unequal thickness(12.0mm to 16.0mm) plate splice butt joint of floor beam FB059-001-006 and FB059-003-001. The QA Inspector randomly observed ZPMC CWI Hu Wei Qing, monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 501 amps, 30.8 volts with travel speed of 421mm/minute. Weld parameters appeared to comply with contract requirements.

FCAW fillet welding (2F) was observed on flange to web plate on floor beam sub-assembly FB045-001 weld joints 001 and 002. ZPMC welders working on these were identified as Yan Shi Tian ID# 062708 and Wang Cai Li ID #045203. ZPMC CWI Hu Wei Qing was noted monitoring the parameters.

Summary of Conversations:
No significant conversation ocurred today.
Comments
This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Joshua Ishibashi, (858) 232-7081, who represents the Office of Structural Materials for your project.

WELDING INSPECTION REPORT

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Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Cochran,Jim	QA Reviewer